

ABSTRACT OF THE DISCLOSURE

5 An air gun includes an air pump with a pumping piston mounted to reciprocate within a pump cylinder, which is mounted on the barrel of the gun to pivot about an axis transverse to the longitudinal axis of the barrel so that as the pump cylinder is moved back and forth around the pivot, the cylinder and piston reciprocate relative to each other to
10 pump air into a high pressure housing carried by the pump cylinder. A discharge conduit is also provided for releasably connecting the high pressure housing to the breach end of a gun barrel when the pump is moved toward the barrel. A firing valve in the discharge conduit releases air from the high
15 pressure housing into the breach end of the barrel. Preferably, a floating differential piston disposed to reciprocate in a high pressure housing divides the housing into a storage chamber and a high pressure chamber. A pressure relief valve extending through the differential
20 piston permits compressed air to flow from the storage chamber to the firing chamber, and maintains a higher pressure in the storage chamber than in the firing chamber. The end of the piston in the firing chamber seals a greater cross sectional area than the end of the piston in the storage chamber so that
25 a piston is forced to move into the storage chamber by an amount which balances the forces on the opposite end of the piston. The gun barrel muzzle includes at least one lateral opening for venting compressed air as a pellet leaves the muzzle end of the barrel.

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